Amendments to the Claims

1. (Original) A method for routing communication lines between blocks of an application specific integrated circuit (ASIC), comprising:

determining route paths between blocks of the ASIC;

scanning the route paths for transmission line replacement candidates; and

for each transmission line replacement candidate, automatically selecting a buffered wire or a transmission line to implement the route path.

2. (Original) The method of claim 1, wherein determining route paths further comprises:

obtaining multiple route paths using wires with and without buffers.

3. (Original) The method of claim 1, wherein a transmission line replacement candidate is selected from the group consisting of a route path the passes over a block of the ASIC and a route path that does not require a buffer.

4. (Original) The method of claim 1, wherein automatically selecting a buffered wire or a transmission line to implement the route path further comprises:

providing a look-up table containing process specific parameters of the transmission line.

5. (Original) The method of claim 4, wherein automatically selecting a buffered wire or a transmission line to implement the route path further comprises:

determining a length of the route path for the buffered wire;

determining a length of the route path for the transmission line, and obtaining, based on the process specific parameters of the transmission line contained in the look-up table, a value for the transmission line;

comparing the value for the transmission line to a corresponding value for the buffered wire; and

automatically selecting the buffered wire or the transmission line based on the comparison.

6. (Original) The method of claim 5, wherein the value is signal delay per unit length.

7. (Original) The method of claim 1, wherein the transmission line comprises a coplanar waveguide transmission line.

8. (Original) A program product stored on a recordable medium for routing communication lines between blocks of an application specific integrated circuit (ASIC) which, when executed, comprises:

    program code for determining route paths between blocks of the ASIC;

    program code for scanning the route paths for transmission line replacement candidates; and

    program code for automatically selecting a buffered wire or a transmission line to implement the route path, for each transmission line replacement candidate.

9. (Original) The program product of claim 8, wherein the program code for determining route paths further comprises:

    program code for obtaining multiple route paths using wires with and without buffers.

10. (Original) The program product of claim 8, wherein a transmission line replacement candidate is selected from the group consisting of a route path the passes over a block of the ASIC and a route path that does not require a buffer.

11. (Original) The program product of claim 8, wherein the program code for automatically selecting a buffered wire or a transmission line to implement the route path further comprises:

program code for accessing a look-up table containing process specific parameters of the transmission line.

12. (Original) The program product of claim 11, wherein the program code for automatically selecting a buffered wire or a transmission line to implement the route path further comprises:

program code for determining a length of the route path for the buffered wire;

program code for determining a length of the route path for the transmission line, and obtaining, based on the process specific parameters of the transmission line contained in the look-up table, a value for the transmission line;

program code for comparing the value for the transmission line to a corresponding value for the buffered wire; and

program code for automatically selecting the buffered wire

or the transmission line based on the comparison.

13. (Original) The program product of claim 12, wherein the value is signal delay per unit length.

14. (Original) A design tool for routing communication lines between blocks of an application specific integrated circuit (ASIC), comprising:

a system for determining route paths between blocks of the ASIC;

a system for scanning the route paths for transmission line replacement candidates; and

a system for automatically selecting a buffered wire or a transmission line to implement the route path, for each transmission line replacement candidate.

15. (Original) The design tool of claim 14, wherein the system for determining route paths further comprises:

a system for obtaining multiple route paths using wires with and without buffers.

16. (Original) The design tool of claim 14, wherein a transmission line replacement candidate is selected from the group consisting of a route path the passes over a block of the ASIC and a route path that does not require a buffer.

17. (Original) The design tool of claim 14, wherein the system for automatically selecting a buffered wire or a transmission line to implement the route path further comprises:

a look-up table containing process specific parameters of the transmission line.

18. (Original) The design tool of claim 17, wherein the system for automatically selecting a buffered wire or a transmission line to implement the route path further comprises:

a system for determining a length of the route path for the buffered wire;

a system for determining a length of the route path for the transmission line, and obtaining, based on the process specific parameters of the transmission line contained in the look-up table, a value for the transmission line;

a system for comparing the value for the transmission line to a corresponding value for the buffered wire; and

a system for automatically selecting the buffered wire or

the transmission line based on the comparison.

19. (Original) The design tool of claim 18, wherein the value is signal delay per unit length.

20. (Currently Amended) The design tool of claim 14, wherein the transmission line comprises a coplanar waveguide transmission line.